

2022 Analysis of Bed Sediments in Commencement Bay, Puget Sound, Washington with a Focus on Mapping the Toxic Dinoflagellate *Alexandrium catenella*

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Alexandrium catenella is a harmful alga that produces toxins causing paralytic shellfish poisoning. To mitigate the risks associated with the consumption of contaminated shellfish, it is crucial to monitor the concentration and distribution of *A. catenella* cysts. This project aimed to monitor the concentration and distribution of *A. catenella* cysts in bed sediments of Commencement Bay. Sediment samples were collected by the Marine Sediment Monitoring Group from the Washington State Department of Ecology, members of the Puget Sound Ecosystem Monitoring Program, from various stations in Commencement Bay. The sediment samples were sub-sampled and sieved, dyed with primulin stain, and *A. catenella* cysts were enumerated using epifluorescence microscopy. None of the sample stations had any presence of *A. catenella* cysts, indicating a low risk of paralytic shellfish toxin contamination in the shellfish from these areas. The absence of *A. catenella* cysts in the bed sediments of Commencement Bay is good news for the local community and public health. The results were consistent with historical data, however, continued monitoring is necessary to ensure that the concentration and distribution of these cysts remain low.